TRANSMITTAL

To:	Bureau of Design and Environment
Attention:	Mathew Sunderland
From:	Illinois Natural History Survey
Regarding:	Morris Wetland Bank Monitoring 2011

Title and Location

Title:	The Morris Wetland Bank: 2011 Monitoring Report
Location:	East of IL 47, north of Pine Bluff Rd. and south of the Illinois River at Morris
County:	Grundy
Job Number:	P-93-010-98
Sequence Number:	1306
Contract Number:	66069
IDOT District:	3

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Date Conducted: 1 and 21 September 2011

Project Summary:

The Morris Wetland Bank is located near Morris, Illinois in Grundy County and is immediately east of IL Route 47 and south of the Illinois River. This site has been monitored by the Illinois Natural History Survey (INHS) since 2004. In 2009, ownership of the Morris Wetland Bank was transferred from the Illinois Department of Transportation (IDOT) to the Illinois Department of Natural Resources (IDNR). INHS monitored this site on 1 and 21 Sept. 2011. The attached report includes the results of this monitoring.

Signed:
Dr. Allen E. Plocher
INHS/IDOT Project Coordinator

Date: 2/29/2012

THE MORRIS WETLAND BANK: 2011 MONITORING REPORT

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Introduction

The Morris Wetland Bank is located near Morris, Illinois in Grundy County and is immediately east of IL Route 47 and south of the Illinois River (Appendix A: Figure 1). More information about the site can be found in the Wetland Bank Prospectus: Morris Site prepared by IDOT (Brooks 2000). As of 17 May 2004, a total of 7630 trees had been planted on 109 acres of ground slated for wetland restoration at the Morris Wetland Bank (IDOT Memo from Michael L. Hine dated 21 May 2004). These trees were planted in 11 different planned wetlands (labeled A through K in Appendix A: Figure 2). The first year of monitoring was conducted on 27-28 July and 20 September 2004. Illinois Natural History Survey (INHS) personnel counted all live-planted trees and performed wetland determinations at each site. Prior to 2011, the site has been monitored on the following dates: 5-6 July and 27 September 2005, 26-27 July 2006, 27-28 September and 4-5 October 2007, 15-16 October 2008, and 4 August, and 13-14 October 2009. INHS personnel submitted annual monitoring reports to IDOT for each year that the site was monitored (Feist et al. 2005, Feist et al. 2006, Feist et al. 2007, Wilm et al. 2008, Feist et al. 2009, Feist et al. 2010). These reports discussed the goals, objectives, and performance criteria for the wetland bank, the methods used for monitoring the site, monitoring results, and recommendations for management of the site.

In 2009, ownership of the Morris Wetland Bank was transferred from IDOT to the Illinois Department of Natural Resources (IDNR). As a result, IDNR now allows deer hunting at the site. Archery deer hunting was ongoing at the site from 1 October 2010 to 16 January 2011. In 2008 and 2009 INHS personnel conducted the monitoring at the Morris Wetland Bank in October and planned to do so again in 2010. Unfortunately INHS personnel found out too late that deer hunting was occurring at the site and that access to the site would be restricted after 1 October. For this reason, INHS personnel were unable to conduct the annual monitoring of the Morris Wetland Bank in 2010. However, a brief proposal for future monitoring was submitted in January 2011 (Feist 2011). The site was monitored again on 1 and 21 September 2011 and the results of this monitoring are discussed in this report.

In 2000, a Wetland Bank Prospectus (Brooks 2000) was developed for the Morris Wetland Bank detailing the goals, objectives, and performance standards for this site. Performance criteria were based on those specified in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and in *Guidelines for Developing Mitigation Proposals* (USACE 1993). Each goal was to be attained by the end of the initial five-year monitoring period. The main goal for the project was the following:

Project goal: The goal of this wetland restoration project is to create one continuous tract of floodplain forest within the Morris Mitigation Bank. To this effect, 109 acres of wetland restoration area have been planted with native trees and shrubs in 11 different planned wetlands (A-K) [Appendix A: Figure 2].

Objectives and performance criteria for these planned wetlands were as follows:

Objective 1: Each planned wetland should be jurisdictional wetland as defined by current federal standards.

Performance criteria:

a. Predominance of hydrophytic vegetation: More than 50% of the dominant plant species must be hydrophytic.

b. Presence of wetland hydrology: The area must be either permanently or periodically inundated at average depths less than 2 m (6.6 ft) or have soils that are saturated to the surface for at least 5% of the growing season.

c. Occurrence of hydric soils: Hydric soil characteristics should be present, or conditions favorable for hydric soil formation should persist at the site.

Objective 2: Each planned wetland should meet standards for floristic composition and vegetation cover.

Performance criteria:

a. Establishment of planted trees and shrubs: At least 80% of the planted trees and shrubs should be established and living.

b. Native species composition: At least 90% of the plants present should be non-weedy, native species.

c. Dominance of vegetation: None of the three most dominant plant species in either site should be non-native or weedy species, such as cattails (*Typha* spp.), sandbar willow (*Salix exigua*), or reed canary grass (*Phalaris arundinacea*).

After the five-year monitoring period ended, the Corps of Engineers granted IDOT mitigation credits for the restoration of 109 acres of planned wetlands within the Morris Wetland Bank. IDOT has agreed to continue to monitor these 109 acres until the time when all mitigation credits have been used. A new plan has been developed for the continued monitoring of the planned wetlands. This plan is outlined below.

Monitoring Plan for the Morris Wetland Bank

1) Assessment of Vegetation: INHS personnel will visit the Morris Wetland Bank every year beginning in September 2011. Each planned wetland will be visited and the following will be assessed:

A. **Planted and Volunteer Trees -** INHS personnel will continue to monitor tree survival within the planned wetland areas (**Objective 2, performance criterion a**); however, instead of counting each individual tree, we will visually inspect the site and report on the condition of the planted trees within each planned wetland. We will also report on the establishment of volunteer trees within the planned wetlands.

B. **Dominant and Invasive Species -** The floristic composition and vegetation cover of the planned wetlands will continue to be monitored (**Objective 2**). INHS personnel will assess the quality of the vegetation within the planned wetland areas. We will note the dominant species at each planned wetland (**performance criterion b**) and we will report on any non-native and/or invasive species that are present in significant numbers at a site (**performance criterion c**).

2) Wetland Determination: INHS personnel will continue to conduct a wetland determination at planned wetland K to monitor the progress of wetland development at this site. The performance criteria under **Objective 1** will continue to be evaluated for Site K utilizing the methods as outlined in Feist et al. (2010). Site K is the only site that has had a significant amount of wetland acreage (> 1 ac) present over the past seven years of monitoring. It is also the only site in which Illinois State Geological Survey (ISGS) personnel still maintain an active on-site data logger (Appendix A: Figure 3, SW8 data logger) to monitor hydrology.

Results

1) Assessment of Vegetation: Each planned wetland (A-K) was visited on 21 September 2011 and the vegetation was assessed. A photo of each planned wetland is included in Appendix B. The results of these assessments are given below. The following abbreviations or symbols are used: h = herb, sh = shrub, sap = sapling, tr = tree. * = non-native.

Planned Wetland A

Dominant species: *Elymus virginicus* (h), *Poa pratensis** (h), *Solidago canadensis* (h), *Fraxinus pennsylvanica* (sh), *Ulmus pumila** (sh)
Invasive species: *Ulmus pumila** (Siberian elm) is common at this site.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 82.3%. A good variety of planted tree and shrub species continue to thrive at this site. In addition, a number of native volunteer tree species have now become established. *Juglans nigra* is common at the site. *Acer negundo*, *Fraxinus pennsylvanica, Gleditsia triacanthos*, *Populus deltoides*, and *Ulmus americana* are occassional.

Additional comments: A number of trees at this site still have wire beaver guards surrounding them. It is recommended that the beaver guards be removed as they are currently restricting the growth of these trees.

Planned Wetland B

Dominant species: *Elymus virginicus* (h), *Setaria faberi** (h), *Aster pilosus* (h)
Invasive species: *Ulmus pumila** (Siberian elm) is occasional at this site.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 112.8%. A good variety of planted tree and shrub species continue to thrive at this site. In addition, a number of native volunteer tree species have now become established. *Fraxinus pennsylvanica* is common at the site. *Acer negundo*, *Celtis occidentalis*, and *Gleditsia triacanthos* are occasional.
Additional comments: A number of trees at this site still have wire beaver guards surrounding them. It is recommended that the beaver guards be removed as they are currently restricting the growth of these trees.

Planned Wetland C

Dominant species: *Elymus virginicus* (h)
Invasive species: *Ulmus pumila** (Siberian elm), *Phalaris arundinacea** (reed canary grass), and *Cirsium arvense** (Canada thistle) are occasional at this site.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 81%. A good variety of planted tree and shrub species continue to thrive at this site. In addition, a number of native volunteer tree species have now become established. *Fraxinus pennsylvanica* is common at the site. *Acer negundo*, *Acer saccharinum, Celtis occidentalis*, and *Gleditsia triacanthos* are occasional.
Additional comments: Many trees at this site, especially on the easternmost side, still have wire beaver guards surrounding them. It is recommended that the beaver guards be removed as they are currently restricting the growth of these trees.

Planned Wetland D

Dominant species: *Elymus virginicus* (h), *Solidago canadensis* (h), *Aster pilosus* (h), *Cirsium arvense** (h), and *Rudbeckia laciniata* (h)
Invasive species: *Phalaris arundinacea** (reed canary grass), and *Cirsium arvense** (Canada thistle) are common at this site.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 54%. A variety of planted tree and shrub species are present at this site, however, overall survival is low. A number of native volunteer tree species have become established at the site. *Fraxinus pennsylvanica* is common. *Acer saccharinum, Celtis occidentalis*, and *Gleditsia triacanthos* are occasional.

Planned Wetland E

Dominant species: *Solidago canadensis* (h), *Urtica dioica* (h), *Aster pilosus* (h), and *Polygonum pensylvanicum* (h)
Invasive species: *Phalaris arundinacea** (reed canary grass), and *Cirsium arvense** (Canada thistle) are common at this site.

Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 51.3%. A variety of planted tree and shrub species are present at this site, however, overall survival is low. A number of native volunteer tree species have become established. *Fraxinus pennsylvanica, Celtis occidentalis*, and *Gleditsia triacanthos* are occasional at the site.
Additional comments: Some trees at this site still have wire beaver guards surrounding them. It is recommended that the beaver guards be removed as they are currently restricting the growth of these trees. At least four planted trees were recently run over and killed during mowing activities at this site.

Planned Wetland F
Dominant species: *Ambrosia trifida* (h), *Elymus virginicus* (h), and *Aster pilosus* (h)
Invasive species: None are present in significant numbers.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 45.5%. A variety of planted tree and shrub species are present at this site, however, overall survival is low. Some native volunteer trees have become established. *Acer negundo* and *Fraxinus pennsylvanica* are occasional at the site.
Additional comments: Large, nearly impenetrable patches of *Ambrosia trifida* (giant ragweed) occur throughout this site.

Planned Wetland G
Dominant species: *Solidago canadensis* (h), *Bromus japonicus** (h), *Ambrosia trifida* (h), *Elymus virginicus* (h), *Cirsium arvense** (h), and *Aster pilosus* (h)
Invasive species: *Bromus japonicus** (Japanese brome) and *Cirsium arvense** (Canada thistle) are common at this site. *Ulmus pumila** (Siberian elm) is occasional.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 75.4%. A good variety of planted tree and shrub species are present at this site. A number of native volunteer trees have become established. *Acer negundo* and *Fraxinus pennsylvanica* are occasional at the site.

Planned Wetland H
Dominant species: *Phalaris arundinacea** (h), *Solidago canadensis* (h), *Bromus japonicus** (h), and *Poa pratensis** (h)
Invasive species: *Phalaris arundinacea** (reed canary grass) is abundant in the southern part of this site. *Cirsium arvense** (Canada thistle) is occasional and *Elaeagnus umbellata** (Autumn olive) is infrequent throughout the site.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 46.3%. A variety of planted tree and shrub species are present at this site, however, overall survival is low. Very few native volunteer trees have become established at this site. Species present include *Fraxinus pennsylvanica, Celtis occidentalis, Gleditsia triacanthos,* and *Populus deltoides*.
Additional comments: Some trees at this site still have wire beaver guards surrounding them. It is recommended that the beaver guards be removed as they are currently restricting the growth of these trees.

Planned Wetland I

Dominant species: *Elymus virginicus* (h), *Solidago canadensis* (h), *Aster pilosus* (h), *Polygonum punctatum* (h), *Polygonum pensylvanicum* (h), and *Rudbeckia laciniata* (h)
Invasive species: *Phalaris arundinacea** (reed canary grass) and *Cirsium arvense** (Canada thistle) are occasional.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 66.3%. A variety of planted tree and shrub species are present at this site, however, overall survival is somewhat low. A number of native volunteer tree species have become established. *Acer negundo, Acer saccharinum, Fraxinus pennsylvanica, Gleditsia triacanthos*, *Juglans nigra*, and *Populus deltoides* are occasional at the site.
Additional comments: Some trees at this site still have wire beaver guards surrounding them. It is recommended that the beaver guards be removed as they are currently restricting the growth of these trees.

Planned Wetland J

Dominant species: *Solidago canadensis* (h)
Invasive species: *Phalaris arundinacea** (reed canary grass) and *Cirsium arvense** (Canada thistle) are abundant at the southwest part of this site and occasional throughout.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 47.5%. A variety of planted tree and shrub species are present at this site, however, overall survival is low. A number of native volunteer tree species have become established. *Acer negundo, Acer saccharinum, Fraxinus pennsylvanica,* and *Populus deltoides* are occasional at the site.

Planned Wetland K

Dominant species: *Boltonia asteroids* (h)*, Echinochloa muricata* (h), *Phalaris arundinacea* (h)*, Leersia oryzoides* (h)*, Bidens frondosa* (h)*, Solidago canadensis* (h)*, Poa pratensis* (h), *Bromus inermis* (h)*, Eupatorium altissimum* (h), and *Setaria glauca* (h)
Invasive species: *Phalaris arundinacea** (reed canary grass) and *Ulmus pumila** (Siberian elm) are occasional.
Planted and volunteer tree species: Percent survival of planted trees at this site in 2009 (Feist et al. 2010) was 51%. A variety of planted tree and shrub species are present at this site, however, overall survival is low. Large areas within this site that are frequently inundated have almost 0% survival of planted trees. A number of native volunteer tree species have become established at the site. *Acer negundo, Acer saccharinum, Gleditsia triacanthos*, and *Salix nigra* are occasional. *Fraxinus pennsylvanica* and *Populus deltoides* are common.
Additional comments: See 2) below and Appendix B for additional information.

2) Wetland Determination: Site K was visited on 1 September 2011 and an on-site wetland determination was performed (Appendix C). According to the results of this visit and hydrological information provided by ISGS personnel (Miner et al. 2011) approximately 13.47 ac met the three criteria of a wetland in 2011. A wetland determination form and species list are provided below. The portion of the planned wetland that meets the three criteria of a wetland is K-1; the portion that does not meet the three criteria is K-2 (Appendix A: Figure 2; Appendix C).

Discussion

In 2009, tree survival at all sites combined was 63.3% of the original 7635 planted trees. This was down by just 0.1% from the 63.4% reported from 2008 (Feist et al. 2008). In 2011, although the trees were not counted, overall survival appeared to be about the same as in 2009. Although the 63.3% survival rate from 2009 is well below the required 80% survival rate, there are a number of native volunteer tree species that are now becoming established at the site. These include *Acer negundo, Acer saccharinum, Fraxinus pennsylvanica, Gleditsia triacanthos*, *Juglans nigra*, and *Populus deltoides*. Since mowing has been reduced at the site, these species should now have the opportunity to become established and contribute to the goal of creating floodplain forest at the site.

There were no planned wetland sites that did not have non-native or weedy species among the dominant species. Extensive mowing of the site has delayed the establishment of perennial native non-weedy species at the site. Now that mowing has been decreased at the site, more perennial, native, non-weedy species should become established at the site, but this could take several years. The presence of non-native and weedy species should continue to be monitored.

There are several invasive species present at the site that must be noted and may be in need of control. Reed canary grass (*Phalaris arundinacea**), Canada thistle (*Cirsium arvense**), and Siberian elm (*Ulmus pumila**) are three aggressive, exotic, invasive species that occur within the planned wetlands. Reed canary grass is dominant at sites K and H and is occasional to common at sites C, D, E, I, and J. Canada thistle is dominant at sites D and G and occasional to common at sites C, E, I and J. Siberian elm is dominant at site A and occasional at sites B, C, G, and K. If left unchecked, these species may spread rapidly and exclude other species.

ISGS personnel reported that a much larger portion of the Morris Wetland Bank site satisfied the wetland hydrology criteria in 2011 (Appendix A: Figure 3) than in previous years (Miner et al. 2011). The close timing of three rainfall events led to an unusual flood event that inundated much of the site long enough to satisfy the wetland hydrology criteria (Miner et al. 2011). A total of 142.4 ac satisfied the wetland hydrology criteria for greater than 5% of the growing season. Wetland mitigation sites are monitored for a number of years and an area must satisfy the wetland criteria for a majority of the years monitored to be considered wetland. Because this was an unusual and rare flood event, it does not affect the overall amount of wetland that occurs throughout the Morris Wetland Bank. Much of Site K, however, has met wetland hydrology for the majority of years monitored (Feist et al. 2010) and so the area outlined as K-1 (Appendix A: Figure 2) is considered to be wetland.

Although only a small amount of wetland has been restored at the Morris Mitigation Bank, this site is progressing toward the goal of creating one continuous tract of floodplain forest within the Morris Mitigation Bank. Tree species are becoming established at the site, however herbaceous, weedy and non-native species continue to be a concern. As shading increases and mowing remains minimal, the herbaceous vegetation at the site will continue to change and perennial and non-weedy species should become established.

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APPENDIX A

FIGURES

Figure 1. Morris Wetland Bank general study area and vicinity. From the USGS Topographic Series, Morris, Illinois 7.5- minute Quadrangle (USGS) 1993. Contour interval is five feet.

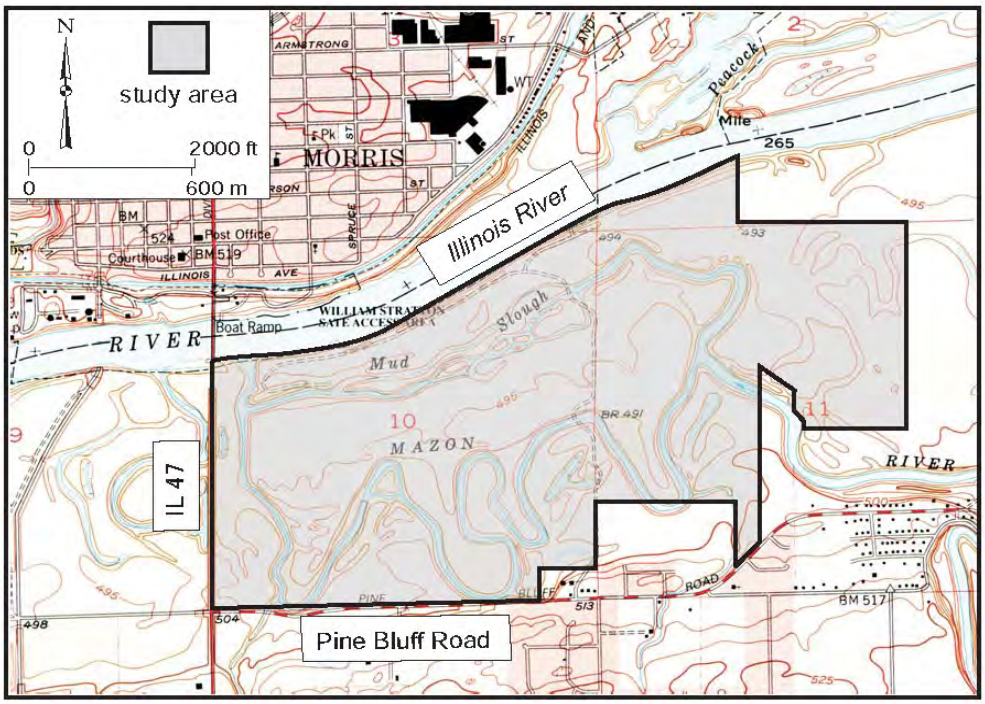


Figure 2. Morris Wetland Mitigation Bank, Grundy County, Illinois. Location of planned wetlands (A-K).

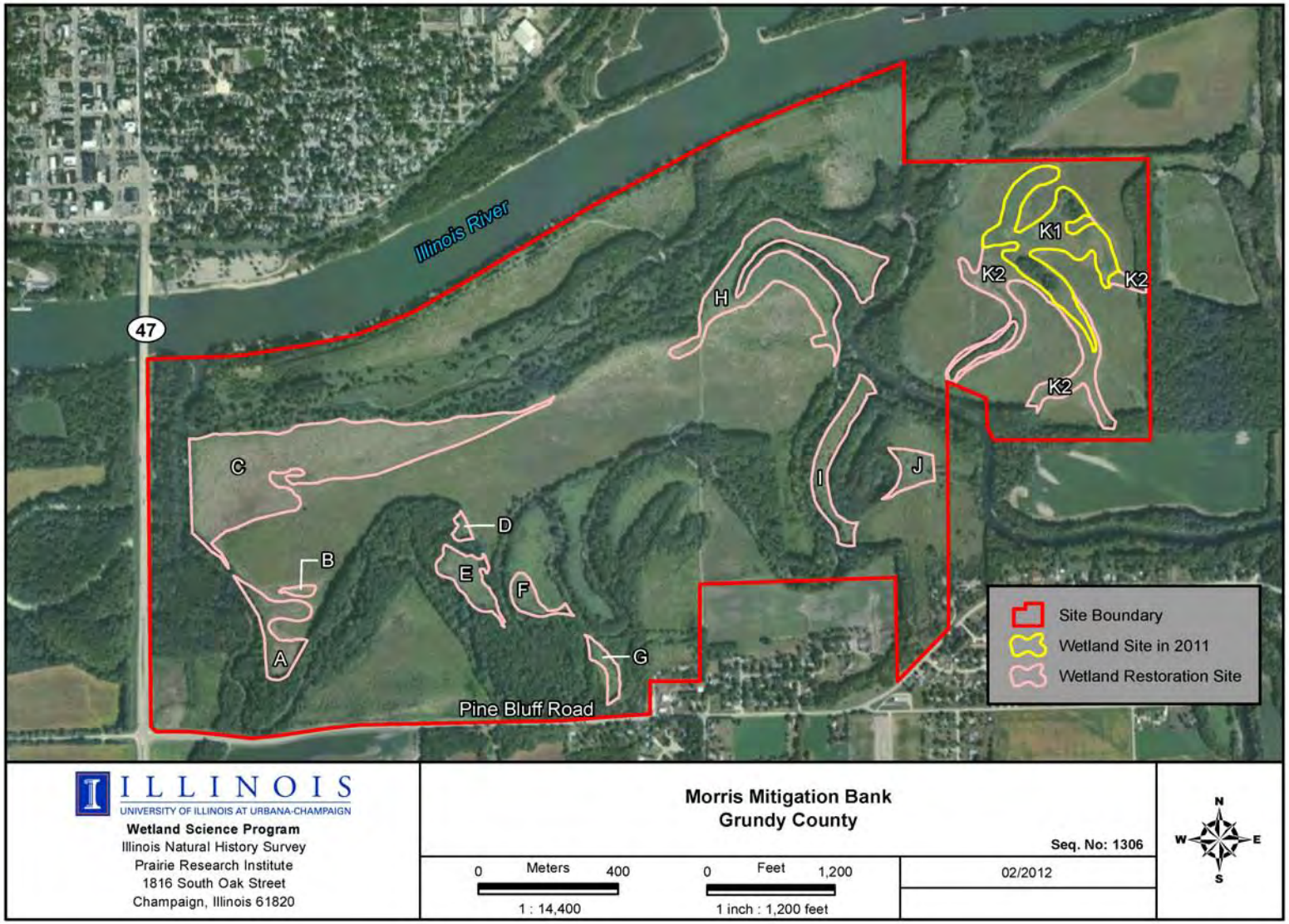
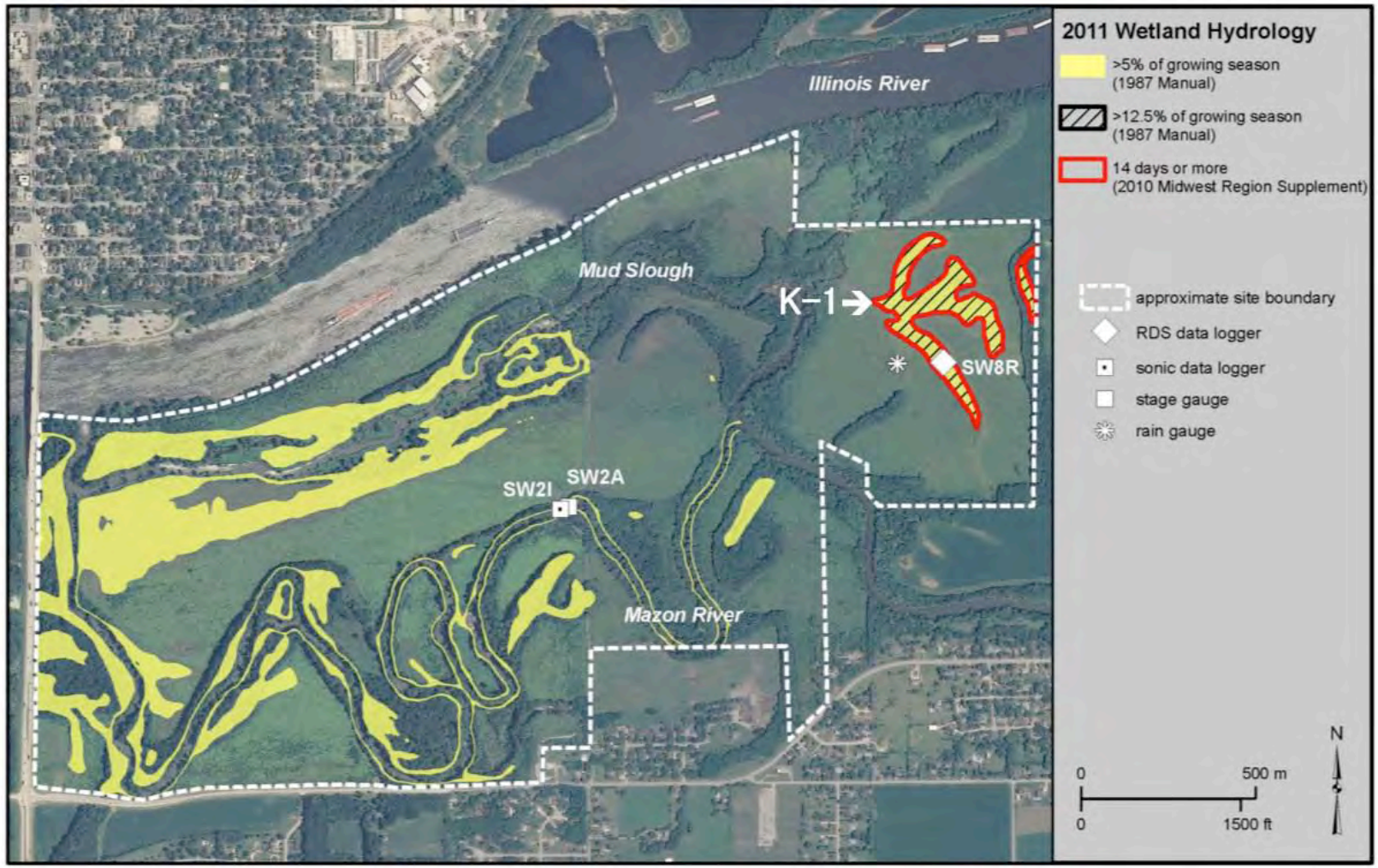


Figure 3. Morris Wetland Mitigation Bank, Grundy County, Illinois. Estimated areal extent of 2011 wetland hydrology FROM 1 September 2010 to 31 August 2011 (ISGS 2011). Map based on National Agricultural Imagery Program (NAIP) digital orthograph, Morris NE quarter-quadrangle, taken 7/1/2010.



APPENDIX B

PHOTOS OF PLANNED WETLANDS A-K

Photograph 1. Planned wetland A.

Photograph 2. Planned wetland B.

Photograph 3. Planned wetland C.

Photograph 4. Planned wetland D.

Photograph 5. Planned wetland E.

Photograph 6. Planned wetland F.

Photograph 7. Planned wetland G.

Photograph 8. Planned wetland H

Photograph 9. Planned wetland I.

Photograph 10. Planned wetland J.

Photograph 11. Planned wetland K.

APPENDIX C

WETLAND DETERMINATION FORM

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 1 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

Do normal environmental conditions exist at this site? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION (K-1)

Dominant Plant Species	Indicator Status	Stratum
1. *Echinochloa muricata*	OBL	herb
2. *Boltonia asteroides*	FACW	herb
3. *Phalaris arundinacea*	FACW+	herb
4. *Leersia oryzoides*	OBL	herb
5. *Bidens frondosa*	FACW	herb

Percentage of dominant species that are OBL, FACW, or FAC: 100%
Hydrophytic vegetation: Yes: X No:
Rationale: More than 50% of the dominants are OBL, FACW, or FAC.

SOILS (K-1)
Series and phase: Sawmill silty clay loam (Cumulic Endoaquoll)
On county hydric soils list? Yes: X No:
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: X No: Color: 10YR 3/4
Color: 10YR 4/6
Redox Depletions? Yes: No: X
Matrix color: 10YR 2/1 over 10YR 4/2
Other indicators: None
Hydric soils? Yes: X No:
Rationale: The Natural Resources Conservation Service identifies Sawmill as a Cumulic Endoaquoll which is poorly drained. The presence of redox concentrations within a low chroma matrix indicates conditions of saturation for long duration during the growing season. Therefore, the soil at this site meets the hydric soil criteria. This soil meets NRCS hydric soil indicators A12 – Thick Dark Surface and F6 – Redox dark surface.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 2 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

HYDROLOGY (K-1)

Inundated: Yes: No: X Depth of standing water: NA
Depth to saturated soil: Undetermined
Overview of hydrological flow through the system: This site consists of two separate low areas within the landscape. Each receives water via precipitation and runoff from surrounding higher ground and occasional overflow from the Illinois and Mazon rivers. Water leaves the site primarily via evapotranspiration, soil infiltration, and drainage into the Mazon River.
Size of Watershed: Approximately 8714 mi^2 (Ogata 1975)
Other field evidence observed: This site occupies low positions within the landscape. Water-borne sediment deposits, sparsely vegetated concave surfaces, and surface water were observed.

Wetland hydrology: Yes: X No:
Rationale: The ISGS reported that the wetland hydrology criterion had been met for this portion of the site in 2011 (Miner et al. 2011). This site is inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion (Figure 3).

DETERMINATION AND RATIONALE (K-1)

Is the site a wetland? Yes: X No:
Rationale: Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are present throughout this site; therefore, this site is a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 3 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

Do normal environmental conditions exist at this site? Yes: X No:
Has the vegetation, soils, or hydrology been significantly disturbed? Yes: No: X

VEGETATION (K-2)

Dominant Plant Species	**Indicator Status**	**Stratum**
1. *Solidago canadensis*	FACU	herb
2. *Poa pratensis*	FAC-	herb
3. *Bromus inermis*	UPL	herb
4. *Eupatorium altissimum*	FACU	herb
5. *Setaria glauca*	FAC	herb

Percentage of dominant species that are OBL, FACW, or FAC: 40%
Hydrophytic vegetation: Yes: No: X
Rationale: Less than 50% of the dominants are OBL, FACW, or FAC.

SOILS (K-2)
Series and phase: Lawson silt loam (Aquic Cumulic Hapludoll)
On county hydric soils list? Yes: No: X
Is the soil a histosol? Yes: No: X
Histic epipedon present? Yes: No: X
Redox Concentrations? Yes: No: X Color: N/A
Redox Depletions? Yes: No: X Color: N/A
Matrix color: 10YR 3/1
Other indicators: None
Hydric soils? Yes: No: X
Rationale: The Natural Resources Conservation Service identifies Lawson as an Aquic Cumulic Hapludoll which is somewhat poorly drained. This soil does not possess any redoximorphic features. Therefore, the soil at this site does not meet the hydric soil criteria. This soil does not meet any of the NRCS hydric soil indicators.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 4 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

HYDROLOGY (K-2)

Inundated: Yes: No: X Depth of standing water: NA
Depth to saturated soil: Undetermined
Overview of hydrological flow through the system: It receives water via precipitation and occasional overflow from the Illinois and Mazon rivers. Water leaves the site primarily via evapotranspiration.
Size of Watershed: Approximately 8714 mi^2 (Ogata 1975)
Other field evidence observed: None

Wetland hydrology: Yes: No: X
Rationale: The ISGS reported that the wetland hydrology criterion was not met for this portion of the site in 2011 (Miner et al. 2011). This part of the site is not inundated or saturated for a sufficient duration to satisfy the wetland hydrology criterion (Figure 3).

DETERMINATION AND RATIONALE (K-2)

Is the site a wetland? Yes: No: X
Rationale: Dominant hydrophytic vegetation, hydric soils, and wetland hydrology are all absent; therefore, this part of the site is not a wetland.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 5 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C*
Abutilon theophrasti	velvet-leaf	herb	FACU-	*
Acer negundo	box elder	shrub, herb	FACW-	1
Acer saccharinum	silver maple	shrub, herb	FACW	1
Agrostis alba	red top	herb	FACW	0
Alliaria petiolata	garlic mustard	herb	FAC	*
Ammannia coccinea	long-leaved ammannia	herb	OBL	5
Amaranthus tuberculatus	tall waterhemp	herb	OBL	1
Ambrosia trifida	giant ragweed	herb	FAC+	0
Apocynum cannabinum	dogbane	herb	FAC	2
Asclepias incarnata	swamp milkweed	herb	OBL	4
Asclepias syriaca	common milkweed	herb	UPL	0
Aster ontarionis	Ontario aster	herb	FAC	4
Aster pilosus	hairy aster	herb	FACU+	0
Aster simplex	panicled aster	herb	FACW	3
Bidens frondosa	common beggar's ticks	herb	FACW	1
Bidens tripartita	beggar's ticks	herb	OBL	2
Bidens vulgata	sticktight	herb	FACW	0
Boltonia asteroides	false aster	herb	FACW	5
Bromus commutatus	hairy brome	herb	UPL	*
Bromus inermis	awnless brome grass	herb	UPL	*
Bromus japonicus	Japanese brome	herb	FACU	*
Campsis radicans	trumpet creeper	shrub, herb	FAC	2
Carex conjuncta	green-headed fox sedge	herb	FACW	5
Carex davisii	Davis sedge	herb	FAC+	3
Carex grayi	bur sedge	herb	FACW+	6
Carex normalis	sedge	herb	FACW	4
Carex tribuloides	sedge	herb	FACW+	3
Carex vulpinoidea	fox sedge	herb	OBL	3
Celtis occidentalis	hackberry	shrub, herb	FAC-	3
Chaerophyllum procumbens	wild chervil	herb	FAC+	1
Cichorium intybus	chickory	herb	UPL	*
Cirsium arvense	Canada thistle	herb	FACU	*
Cirsium vulgare	bull thistle	herb	FACU-	*
Conyza canadensis	horseweed	herb	FAC-	0

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 6 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C*
Coronilla varia	crown vetch	herb	UPL	*
Dactylis glomerata	orchard grass	herb	FACU	*
Daucus carota	Queen-Anne's-lace	herb	UPL	*
Echinochloa muricata	barnyard grass	herb	OBL	0
Elaeagnus umbellata	autumn olive	shrub	UPL	*
Elymus canadensis	Canada wild rye	herb	FAC-	4
Elymus virginicus	Virginia wild rye	herb	FACW-	4
Erigeron annuus	annual fleabane	herb	FAC-	1
Erigeron strigosus	daisy fleabane	herb	FAC-	2
Eupatorium altissimum	tall boneset	herb	FACU	1
Eupatorium rugosum	white snakeroot	herb	FACU	2
Eupatorium perfoliatum	common boneset	herb	FACW+	4
Eupatorium serotinum	late boneset	herb	FAC+	1
Festuca pratensis	meadow fescue	herb	FACU-	*
Geum canadense	white avens	herb	FAC	2
Geum laciniatum	rough avens	herb	FACW	2
Glechoma hederacea	ground ivy	herb	FACU	*
Gleditsia triacanthos	honey locust	shrub, herb	FAC	2
Gratiola neglecta	clammy hedge hyssop	herb	OBL	5
Helianthus tuberosus	Jerusalem artichoke	herb	FAC	3
Hordeum jubatum	squirrel-tail	herb	FAC+	*
Ipomoea lacunosa	small morning glory	herb	FACW	1
Juglans nigra	black walnut	shrub, herb	FACU	4
Lactuca serriola	prickly lettuce	herb	FAC	*
Lonicera maackii	Amur honeysuckle	shrub	UPL	*
Lonicera tatarica	Tatarian honeysuckle	shrub	FACU	*
Lycopus americanus	common water horehound	herb	OBL	3
Lysimachia nummularia	moneywort	herb	FACW+	*
Medicago lupulina	black medic	herb	FAC-	*
Melilotus alba	white sweet clover	herb	FACU	*
Melilotus officinalis	yellow sweet clover	herb	FACU	*
Mimulus ringens	monkey flower	herb	OBL	5
Morus alba	white mulberry	shrub, herb	FAC	*

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 7 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C*
Muhlenbergia frondosa	common satin grass	herb	FACW	3
Oenothera biennis	evening primrose	herb	FACU	1
Oxalis stricta	yellow wood sorrel	herb	FACU	0
Panicum implicatum	old field panic grass	herb	FAC	2
Pastinaca sativa	parsnip	herb	UPL	*
Phalaris arundinacea	reed canary grass	herb	FACW+	*
Phleum pratense	Timothy	herb	FACU	*
Phyla lanceolata	fog-fruit	herb	OBL	1
Physostegia virginiana	false dragonhead	herb	FACW	6
Plantago lanceolata	narrow-leaved plantain	herb	FAC	*
Plantago rugelii	red-stalked plantain	herb	FAC	0
Poa pratensis	Kentucky bluegrass	herb	FAC-	*
Polygonum amphibium	water smartweed	herb	OBL	3
Polygonum aviculare	knotweed	herb	FAC-	*
Polygonum lapathifolium	curttop lady's thumb	herb	FACW+	0
Polygonum pensylvanicum	giant smartweed	herb	FACW+	1
Polygonum punctatum	dotted smartweed	herb	OBL	3
Polygonum persicaria	spotted lady's thumb	herb	FACW	*
Populus deltoides	eastern cottonwood	shrub, herb	FAC+	2
Potentilla norvegica	rough cinquefoil	herb	FAC	0
Prunella vulgaris	self-heal	herb	FAC	*
Ranunculus abortivus	little-leaf buttercup	herb	FACW-	1
Ranunculus sceleratus	cursed crowfoot	herb	OBL	3
Rorippa islandica	marsh yellow cress	herb	OBL	4
Rosa multiflora	multiflora rose	shrub	FACU	*
Rubus occidentalis	black raspberry	shrub	UPL	2
Rudbeckia laciniata	cutleaf coneflower	herb	FACW+	3
Rudbeckia triloba	brown-eyed Susan	herb	FAC-	3
Rumex altissimus	pale dock	herb	FACW-	2
Rumex crispus	curly dock	herb	FAC+	*
Salix amygdaloides	peach-leaved willow	shrub	FACW	4
Salix exigua	sandbar willow	shrub	OBL	1
Salix nigra	black willow	shrub	OBL	3
Sambucus canadensis	common elder	shrub	FACW-	2

Species list continued on next page.

ROUTINE ONSITE WETLAND DETERMINATION
Site K (page 8 of 8)

Field Investigators: Feist, Zylka, and Draheim **Date:** 1 September 2011
Project Name: Morris Wetland Bank
Job No.: P-93-010-98 **Seq. No.:** 1306
State: Illinois **County:** Grundy **Applicant:** IDOT District 3
Site Name: Planned wetland
Legal Description: N/2 Sect. 11, T. 33 N., R. 7 E.
Location: This planned wetland is located in the large field in the easternmost portion of the project area.

SPECIES LIST

Scientific name	Common name	Stratum	Wetland indicator status	C★
Setaria faberi	giant foxtail	herb	FACU+	*
Setaria glauca	pigeon grass	herb	FAC	*
Sida spinosa	prickly sida	herb	FACU	*
Solidago canadensis	Canada goldenrod	herb	FACU	1
Solidago gigantea	late goldenrod	herb	FACW	3
Stachys tenuifolia	slenderleaf betony	herb	OBL	5
Taraxacum officinale	common dandelion	herb	FACU	*
Toxicodendron radicans	poison ivy	herb	FAC+	1
Trifolium pratense	red clover	herb	FACU+	*
Trifolium repens	white clover	herb	FACU+	*
Ulmus americana	American elm	shrub, herb	FACW-	5
Ulmus pumila	Siberian elm	shrub, herb	UPL	*
Verbena hastata	blue vervain	herb	FACW+	3
Verbena urticifolia	white vervain	herb	FAC+	3
Verbesina alternifolia	wingstem	herb	FACW	4
Veronica peregrina	purslane speedwell	herb	FACW+	0
Viola pratincola	common blue violet	herb	FAC	1
Vitis riparia	riverbank grape	herb	FACW-	2

★Coefficient of Conservatism (Taft et al. 1997)
*Non-native species
Percent native species = (79/119) * 100 = 66.4%

$\bar{C}$ = ∑C/N = 183/79 = 2.3
FQI = ∑C /√N = 183/√79 = 20.6